<div align="center">**Remarks**</div>

The above Amendments and these Remarks are in reply to the Final Office Action mailed December 29, 2006, and are being filed concurrently with a REQUEST FOR CONTINUED EXAMINATION UNDER 37 C.F.R. §1.114.

I.   Summary of Examiner's Rejections

Prior to the Final Office Action mailed December 29, 2006, Claims 1-18 were pending in the Application. In the Office Action, Claims 1-5, 10-13 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo (U.S. Patent No. 6,711,741) in view of Yao et al. (U.S. Patent No. 6,721,490, hereinafter Yao). Claims 6-9, 14 and 16-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo in view of Yao and further in view of Ceccarelli (U.S. Patent No. 6,222,532, hereinafter Cecarrelli).

II.   Summary of Applicant's Amendment

The present Response amends Claim 1, leaving for the Examiner's present consideration Claims 1-18. Reconsideration of the Application, as amended, is respectfully requested. Applicant respectfully reserves the right to prosecute any originally presented or canceled claims in a continuing or future application.

III.   Claim Rejections under 35 U.S.C. § 103(a)

In the Office Action mailed December 29, 2006, Claims 1-5, 10-13 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo (U.S. Patent No. 6,711,741) in view of Yao et al. (U.S. Patent No. 6,721,490, hereinafter Yao). Claims 6-9, 14 and 16-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo in view of Yao and further in view of Ceccarelli (U.S. Patent No. 6,222,532, hereinafter Ceccarelli).

Claim 1

Claim 1 has been amended to more clearly define the embodiment therein. As amended, Claim 1 defines:

> 1.   A method for providing on-the-fly client-side indexing and navigation of video data, comprising the steps of:
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> opening a main connection for a client-side device to receive transmissions of a data flow, wherein said data flow is not indexed;
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> opening a second connection for the client-side device to receive at least one look-x data stream comprising a plurality of data from said data flow, wherein said plurality of data is not indexed;
>
> indexing with the client-side device at least one point of the look-x data stream to at least one corresponding point in said data flow, wherein said indexing step with the client-side device further comprises determining a particular timeframe in said data flow and selecting on-the-fly at least one look-x point for display to represent the at least one corresponding point in said data flow at said particular timeframe; and
>
> providing control of a playback position of said data flow based on the indexed points in the look-x data stream.

As amended, Claim 1 defines opening a main connection between a client-side device and a media server in order to receive transmissions of a data flow. The data stream coming from the media server 1 is not indexed. Instead, indexing is performed with the client-side device. The client-side device indexes a point of the look-x data stream to a corresponding point in the main data stream received via the main connection. This indexing is done by determining a timeframe in the data stream and selecting on-the-fly a look-x point to represent the corresponding data flow point at that timeframe. In this manner, the client side device indexes the un-indexed data stream on-the-fly, as it is being received from the media server.

The advantages of the features in Claim 1 include the ability to provide snapshots to reference positions in a data stream even if such indexed snapshots are not provided by the server in the original data stream. By performing on-the-fly indexing, the client-side device actually performs the indexing of the media stream as it is being received. Thus, a client device can enable its own indexing even if no such indexing is included in the data stream from the server.

Yeo teaches a random access video playback system on a network. More particularly, Yeo appears to disclose a server that stores temporal snapshots of source video together with that video and then transmits those temporal snapshots (along with the video) to its client. The snapshots are presented as individual images to a user on the client and can be used to playback corresponding segments of source video frames.

Yao, on the other hand, teaches a hierarchical storage scheme and data playback scheme for enabling random access to realtime stream data. More particularly, Yao appears to disclose a data playback device for recording and playbacking video data. This playback device further includes a mechanism that determines whether to place segments of video in a cache for faster access by the user. This appears to be done based on a prescribed user input pattern. Thus, when the user input is in some prescribed pattern, potential access in the future appears to be estimated and the storage in the cache is controlled accordingly.

However, Applicants respectfully submit that Yeo in combination with Yao fail to disclose or render obvious the features of Claim 1.

Firstly, Yeo in combination with Yao fail to disclose on-the-fly indexing a point of the look-x data stream to a corresponding point in the main data flow by the client-side device, as defined in Claim 1. In the Office Action, it was agreed that Yeo fails to disclose this feature of Claim 1. It was proposed, however, that Yao discloses "a client side indexing system which records the position in a program where a user has indicated playback, stop or shifting in time forwards or backwards, and later presents these points to the user in order to easily navigate the program." (Office Action page 3). Applicants respectfully submit that this is different from the features of Claim 1. For example, while Yao may teach a data playback device that records where a user has indicated playback, this is entirely different from on-the-fly indexing of Claim 1. Claim 1 defines that a timeframe is determined in the data stream and a look-ahead point is selected to represent the point in the data stream at that timeframe. No recording of user patterns or indication needs to be done in Claim 1. Instead, the indexing is done on-the-fly by

the client-side device, as the un-indexed video is being received. No such indexing is disclosed in Yao. Yao appears to be only concerned with creating playback positions according to user input patterns. These playback start positions are then stored so that the user can access the video later at these positions. Claim 1, however, does not require any input from the user to index the video stream. On the contrary, Claim 1 indexes video by opening a second connection that effectively previews the upcoming video by the client device, and then the client-side device automatically selects look-x points to represent points in the main stream. No such functionality is disclosed in Yao.

Indexing on the client side associates a point in the look-x stream to a time reference in the data flow. This association is created at the client-side device. No such association is disclosed in either of the cited references.

Secondly, Yeo in combination with Yao fail to disclose opening a main connection between a client a media server in order to receive data flow and opening a second connection to the media server for receiving a look-x data stream wherein *neither of the data flows are indexed* by the server, as defined in Claim 1. As defined, there are two streams of data established between a client and the media server – a main connection for main data flow; and a second (preview) connection for look-ahead (or behind) stream. Neither of these streams is indexed by the server. For example, since the second connection can be a lower bandwidth connection, it can be used to obtain a look-ahead video stream which can be used by the client-side device to index the main video data stream. Neither Yeo nor Yao are concerned with such functionality.

In Yeo, it is the media server that provides the indexing information in the video stream. Thus, the server appears to send both the continuous video frames and the pre-determined temporal snapshots (e.g. "input selector ... proceeds to determine whether the input data are temporal snapshots or continuous video frames." Yeo, col. 4, lines 15-18). There is no

disclosure of two streams that are not indexed, nor indexing on-the-fly by the client side device, as defined in Claim 1.

In Yao, it is also the server that provides the random access point segment information (e.g. "a server side memory unit configured to store random access point segment information" col. 4, lines 41-45). These segments appear to be merely estimated for potential access by the client in order to determine which segments to place in the cache. Furthermore, Yao is not at all concerned with two streams of data that are not indexed and wherein the client-side device indexes the stream on-the-fly by associating points in those streams, as defined in Claim 1.

Generally speaking, the cited references appear to refer to indexing as placing pre-computed keyframes and links into interfaces. This is different from indexing on-the-fly defined in Claim 1. Claim 1 defines indexing as selecting an image from the video stream on-the-fly by the client device. The image is selected by the client device while the video stream is being received and at that time it is associated with a point in the video. Claim 1 does not require pre-computed keyframes in the video stream, i.e. the video stream coming from the server is not indexed.

In view of the above comments, Applicants respectfully submit that Claim 1, as amended, is neither anticipated by, nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

Claims 10, 15 and 16

Claims 10, 15 and 16, while independently patentable, recite limitations that, similarly to those described above with respect to claim 1, are not taught, suggested nor otherwise rendered obvious by the cited references. Reconsideration thereof is respectfully requested.

Claims 2-9, 11-14 and 17-18

Claims 2-9, 11-14 and 17-18 are not addressed separately, but it is respectfully submitted that these claims are allowable as depending from an allowable independent claim,

and further in view of the comments provided above. Applicants respectfully submit that Claims 2-9, 11-14 and 17-18 are similarly neither anticipated by, nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

It is also submitted that these claims also add their own limitations which render them patentable in their own right. Applicants respectfully reserve the right to argue these limitations should it become necessary in the future.

IV.   Conclusion

In view of the above amendments and remarks, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and reconsideration thereof is respectfully requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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